Clean Environment Commission

REPORT ON PUBLIC HEARINGS

December 5, 1983 ~ February 2, 1984

HAZARDOUS & SPECIAL WASTE MANAGEMENT

Manitoba

CLEAN ENVIRONMENT COMMISSION

HEARINGS ON HAZARDOUS AND SPECIAL WASTES

STAGE I OF PHASE I OF PROGRAM

DECEMBER 5, 1983, to FEBRUARY 2, 1984.

MARCH 1984

TABLE OF CONTENTS

INTRODUCTION 1

TERMS OF REFERENCE 2

THE HEARING FORMAT 4

SUMMARY AND CONCLUSIONS. 10

RECOMMENDATIONS. 16

APPENDICES

A Hazardous Waste Symposium - A Summary. 19

B Legislation - Dangerous Goods Handling - A Summary . . 21

C Current Manitoba Waste Inventory - A Summary 23

D Individual Hearing Reports - Summaries

Dauphin 25
Flin Flon 26
Winnipeg #1 29
Portage la Prairie. 31
Brandon 32
Morden. 33
Winnipeg #2 34
Thompson. 41

E Summary of Briefs Submitted Following Hearings 44

F List of Briefs and Submissions 47

INTRODUCTION

A worldwide problem exists concerning the pollution caused by inadequate and unsafe practices of hazardous waste disposal that have been prevalent ever since, and perhaps well before, the industrial revolution.

The problem was not always caused by irresponsible practice on the part of individuals, industry, or government. The potentially harmful, long-term cumulative effects were, in the past, simply not recognized.

In more recent times, attempts were made to dispose of identified hazardous wastes in what was considered to be a suitable manner; however, many of these methods are causing serious problems which are difficult and extremely costly to correct.

With this new knowledge has come rising alarm and an awakening awareness of the urgent need to take effective action to stop the inadequate treatment and disposal of hazardous waste. There is also a determination to do so as quickly as possible.

This is now of great importance for all of us and of even more importance for the future generations that will follow.

There is no question that public interest and active participation in the development and establishment of a hazardous and special wastes management system is an absolute essential if we are to achieve a rapid and favourable solution to this difficult problem. We are all contributors to the problem and we must all be a part of the solution.

TERMS OF REFERENCE

On November 5, 1982, The Honourable Jay Cowan, then Minister of Environment and Workplace Safety and Health, announced the initiation of a Hazardous and Special Wastes Management Program in Manitoba. The program was to take place in three phases with Phase I to include a Symposium, the introduction of enabling legislation and Clean Environment Commission hearings. As part of Phase I, The Clean Environment Commission was requested to hold public hearings beginning in December 1983, to seek public opinion and involvement in the development of a hazardous and special wastes management program.

The Minister recommended that the hearings should provide an opportunity for public consideration of the definition of the Terms of Reference for the ownership and operation of any facility and system and listed specific questions to be addressed during the hearings.

1. If there is a need for a facility, should that facility be operated by: the government; a crown corporation; the private sector; or any combination of the above?

2. Who should be responsible for enforcing the legislation and regulation: the government, a neutral body, or self-enforcing?

3. Who should bear the costs of the operation of any such system: the generator of any wastes; industry through taxation; the general public through taxation; or, any combination of the above?

4. Should the government co-ordinate industry-wide efforts at recycling, reduction, and reuse of waste streams? If so, should there be a legislative authority for such activities?

5. What should the role of the public be in regard to the recycling, reuse and/or reduction of their own wastes? Should there be a regulatory control over such activities?

Public input and the consideration of the Commission were not to be restricted to these questions.

The Minister further suggested that the Symposium report and recommendations provide the background for these hearings and that the Commission's Stage I recommendations be based on the results of presentations to these hearings.

In addition to Stage I hearings, Stage II hearings are to be held later in 1984 which will address, more specifically, the type of management system required for Manitoba's hazardous and special wastes. These hearings will follow the compilation of the actual inventory of Manitoba's hazardous and special wastes.

THE HEARING FORMAT

Hearings were held in Dauphin on December 5, and Flin Flon on December 15, 1983, and in Winnipeg on January 11, Portage la Prairie on January 17, Brandon on January 18, Morden on January 25, Winnipeg on January 30 and 31, and in Thompson on February 2, 1984.

Preparatory to the hearings, advertisements of the hearings were placed in appropriate newspapers. In addition, letters were sent to municipal authorities and a number of organizations and individuals who were considered to have an interest in the matter.

All hearings were held in the evening to facilitate the attendance of citizens who would have difficulty attending during the day. In the case of Dauphin, Flin Flon, and one of the Winnipeg hearings, a hearing was reconvened the following day. Attendance at the hearings varied from a low of ten at Portage la Prairie to a maximum of fifty-eight at the second Winnipeg hearing. At least one formal brief was presented at each hearing with as many as eight presentations made at the second Winnipeg hearing. Aside from formal presentations, a number of attendees asked questions, particularly of the Environmental Management Division, and made spontaneous presentations in response to the stimulus of the Chairman. In addition to formal questions and presentations, the interest of attendees was reflected by comments during coffee breaks and following adjournment. Most of those in attendance represented industry and municipal jurisdictions. A number of delegates from the Lac du Bonnet area attended both Winnipeg hearings to express their concerns respecting the disposal of both high and low level radioactive wastes. Following the completion of the hearings, a number of briefs were forwarded to the Commission office.

At each hearing, the Commission Chairman introduced the subject to the gathering. The essential need for public involvement in all phases of programs was stressed and the current hearings were cited as an example of this concern. The universality of the hazardous waste disposal problem was noted. As citizens of the world and our own locales, we have utilized, and sometimes demanded goods and services many of which have resulted in hazardous wastes. Hazardous wastes are not a new phenonemon; however, it is only in recent times that the critical potential of their impacts have become more manifest, as evidenced, for example, at Love Canal, Niagara Falls, New York. Hazardous wastes differ from regular garbage in that they are potentially more damaging to the environment and to health and consequently require special management. Although Manitoba, in relative terms, may not yet be considered intensively industrialized, studies have shown that we produce thousands of tons of hazardous wastes annually, and it is now imperative that they be handled and disposed of in as safe a manner as is feasible.

In terms of the total process, Phase I is the first of a three phased program to examine the need for and the planning of hazardous waste disposal facilities for Manitoba. The outcome of the plan will be a comprehensive management system for hazardous wastes in Manitoba that may include components for reducing or eliminating hazards by physical/chemical treatment or by high temperature incineration as well as final secure storage and/or secure landfill sites. It is hoped that early and continued public involvement will make Manitobans everywhere part of the solution to the problem since everyone plays some part in the creation of the problem.

Reference was made to the measures that have already been taken, i.e. the appointment by the government of a Hazardous Waste Co-ordinator, the convention of a public symposium on hazardous wastes in March 1983, and the drafting of provincial legislation

on Dangerous Goods Handling which was introduced into the legislature in August 1983 and was subsequently reviewed by way of public consultation in the fall of 1983.

Edwin Yee, the Hazardous Waste Co-ordinator for the Province, made a presentation at each of the hearings. Included was a twenty-five minute film "Our Hidden National Product" which was set principally in the United States. It showed vividly the impacts of improperly managed hazardous wastes as depicted by Love Canal. It also portrayed effective hazardous waste management technology in the form of treatment, reuse and disposal of these materials. Also featured was a public meeting in a rural United States setting that was to be the site of a secure landfill. The hazardous wastes in particular had been generated in a larger urban industrial centre remote from this rural setting. This proposal was rejected by the local citizens and council since the community did not want the hazardous waste site in their backyard notwithstanding the proven safety and effectiveness of the project proposed.

A short audio/visual presentation on Manitoba's projected Hazardous Waste Management Program, utilizing 35mm slides, was also shown.

Mr. Yee reinforced the Chairman's view that the purpose of the current hearing was to supply information that would assist in getting the public involved in the process. Public involvement is to be the keynote of the total Hazardous Waste Management Program in Manitoba both during the planning stages and thereafter. One of the main points noted was that we are all generators of hazardous wastes in our daily lives even if only in an indirect way. The following are examples of materials or operations that have a propensity to produce such wastes - the petrochemical industry; mining residues from nonferrous metals such as zinc, copper and nickel whose benefits we enjoy daily; printing with organics such as ink and solvents; agricultural

chemicals, their manufacture and application; drycleaning with solvents; health services and their concomitant wastes.

Mr. Yee also talked about methodologies for the reduction of wastes. One such method is waste exchange which brings the generator into touch with the user of such wastes whereby waste byproducts may actually be utilized as production material by another industry.

Where waste exchange is not possible, waste recovery techniques may be employed. Basically, this is a process of separating a reuseable stream from the waste stream to reduce the amount of final waste emitted from the process. Examples of this kind include carbon absorption, distillation, electrolysis, reverse osmosis, evaporation, ion exchange, solvent extraction, and ultrafiltration.

When a waste cannot be exchanged or recovered, it is necessary to treat and dispose of it by either a biological, thermal, physical/chemical, or radiation treatment technology. Landfills may also be used but, unlike conventional sanitary landfills, these are "secure" landfills that employ impermeable liners, precise inventory of stored wastes, continuous monitoring, and eventual recovery capability should this become necessary. In most cases, wastes have to first be treated before being placed in the landfill. In other cases, the waste may be retrieved at some later date when it can be reused.

Some discussion followed concerning hazardous waste management in Europe and North America. The Europeans have been in this business for ten or more years since the problems began earlier as a result of increased industrialization and higher population densities. All of the hazardous waste management technologies have been employed in Europe. In Europe, ownership of hazardous waste management facilities ranges from private to government owned to combinations thereof. Basic to all of the

systems is a manifest which tracks goods from the "cradle to the grave". In the United States, the mandate governing hazardous wastes resides with the Federal Government, in the mechanism of the Resource Conservation Recovery Act of 1980. Individual states can become authorized to treat and dispose of hazardous wastes generated in their jurisdictions. Minnesota is an example of such a state as well as California which established regulations relating to treatment and disposal of hazardous wastes in 1972.

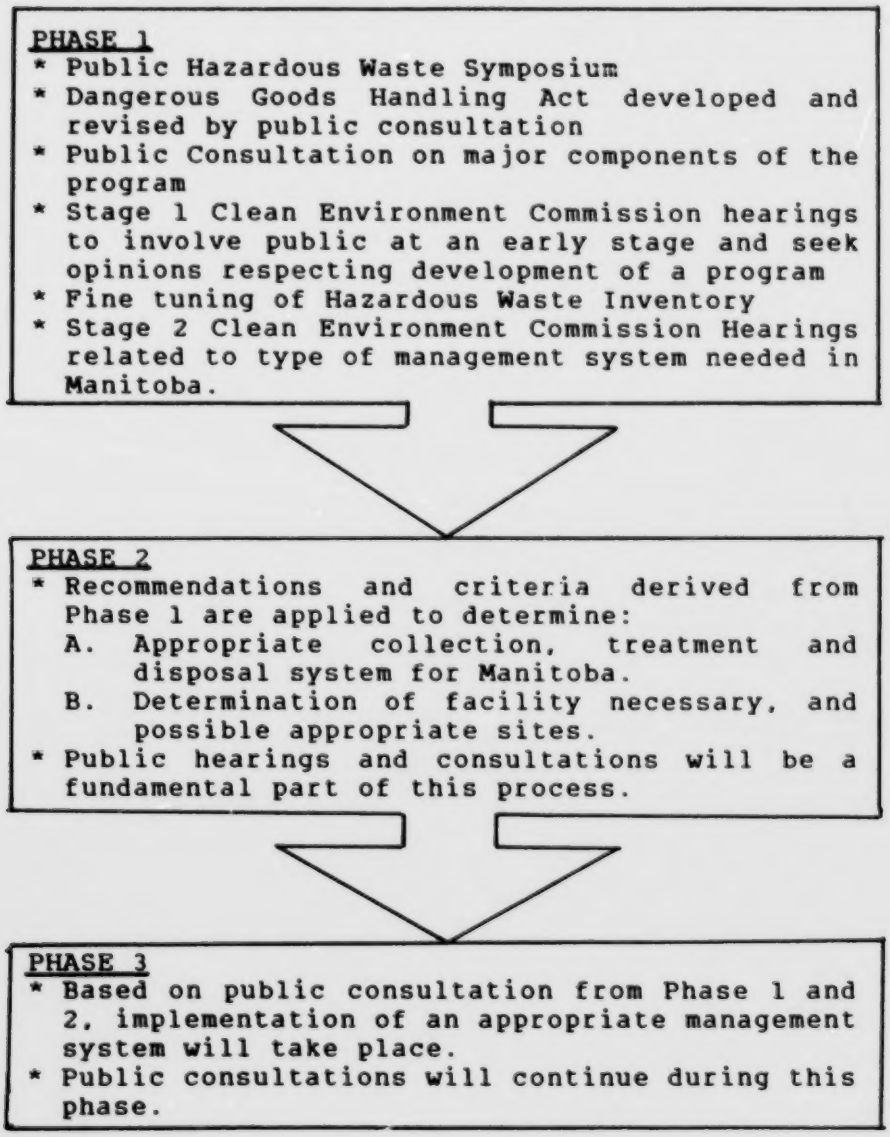
In Canada, all provinces are in some state of preparation for hazardous waste management albeit Ontario, Alberta, Quebec, and British Columbia, in that order, are in the forefront of development. Ontario is looking at a plan which would include facilities close to the generators of hazardous wastes and which would be within the "golden horseshoe" of industrial development in southern Ontario. Alberta is attempting to site a central integrated hazardous waste treatment and disposal system that could include physical/chemical treatment, incineration, and a secure landfill. In Quebec, the Stablex Company has located a plant for solidifying wastes at Blaineville; Tricil is also attempting to site a hazardous waste incinerator in that province. Quebec also has a manifest system in operation.

Manifest systems are, and will be, an integral part of all hazardous waste systems. To ensure uniformity of application, a Federal/Provincial committee convened under the aegis of the Ministry of Transport (Transportation of Dangerous Goods) is looking at a cohesive manifest system for Canada. This process carries over to global applications with uniformity of labelling codes which has the sponsorship of the United Nations.

In Phase II of the Manitoba Hazardous Waste Management process based in part on the recommendations that result from these Phase I hearings, appropriate components and technology for a waste collection, treatment, recycling and disposal system will be examined. This process will also include criteria for siting

such facilities as well as the siting itself. Phase III will be the implementation of the appropriate management system itself. Throughout all stages of the process, public hearings and public input will be of foremost importance.

MANITOBA HAZARDOUS AND SPECIAL WASTE MANAGEMENT PLAN


PHASE 1
* Public Hazardous Waste Symposium
* Dangerous Goods Handling Act developed and revised by public consultation
* Public Consultation on major components of the program
* Stage 1 Clean Environment Commission hearings to involve public at an early stage and seek opinions respecting development of a program
* Fine tuning of Hazardous Waste Inventory
* Stage 2 Clean Environment Commission Hearings related to type of management system needed in Manitoba.
PHASE 2
* Recommendations and criteria derived from Phase 1 are applied to determine:
A. Appropriate collection, treatment and disposal system for Manitoba.
B. Determination of facility necessary, and possible appropriate sites.
* Public hearings and consultations will be a fundamental part of this process.
PHASE 3
* Based on public consultation from Phase 1 and 2, implementation of an appropriate management system will take place.
* Public consultations will continue during this phase.

SUMMARY AND CONCLUSIONS

1. Need for a Hazardous and Special Waste Facility

There was overwhelming support of the need of a hazardous and special wastes facility. Some of the briefs and comments cautioned that this decision should await the outcome of the more definitive hazardous waste inventory that is currently being completed by the Environmental Management Division. All briefs cautioned that the process should not be precipitous; that sufficient time should be taken to put the best system in place, to ensure cost effectiveness and efficiency. However, many focussed on the urgency of this important problem and stressed that a decision and action should not be postponed too long. One brief suggested that a facility should be in place in five years. Other presentations raised questions about the possible need for regional handling of the problem or perhaps a mix of regional and local facilities. A basic problem, in this regard, is that local jurisdictions may not want, or be willing to accept, hazardous wastes from other locations. There was also an expression of a need of adequate hazardous and special waste storage facilities in the short-term.

2. Ownership and Operation of the Facility

The question relative to the ultimate operation of the facility - government, crown corporation or the private sector - drew mixed reactions. Basically individual citizens and municipal corporations favoured government operations in the form of either a departmental organization or a crown corporation. More favoured the crown corporation with the government department responsible for monitoring. Industry spokesmen felt that a private sector operation would do a better and more cost effective job, although this too would need to be regulated by a government agency.

3. Location of Facilities

The issue of siting was not dealt with in detail at this stage of the program in view of the presently ongoing program to inventory the type and quantity of material which must be processed. The need for comprehensive environmental impact assessments for all sites under final consideration was noted. Some mention was made of the need for a facility to be close to the maximum point of generation, which is thought to be Winnipeg. Others felt that there might be a need for a regional facility in the north in order to reduce the transport distances and the resultant possibilities for environmental accidents.

A view was expressed that, of the many hundred industries in Manitoba with hazardous wastes, some would be very small generators and the mechanism to deal with the small business would be different than the larger businesses. This situation may indicate a need to establish collection points at locations throughout Manitoba such as Brandon, Dauphin, Morden, etc. A small manufacturer in southern Manitoba felt that businesses some distance remote from the hazardous waste facility should be subsidized to haul their waste to the site.

The need for safe disposal of pesticide residues and pesticide containers was given as an example of a local problem that exists in many municipalities. Reference was made to the Environmental Management Division's pilot program involving the collection of pesticide residues from empty containers before crushing of the containers for subsequent salvage or burial.

Portable facilities may be necessary to economically make provision for some of the local or regional needs.

4. Legislation and Regulation

It was a unanimous opinion that the government should be the agency responsible for enforcing the legislation and for the regulation of the facility.

There was discussion about a possible need for a public advisory group to be included in the establishment, regulation and monitoring of hazardous waste disposal operations. Such a group should include a member from the local government unit in which the hazardous waste facility is located.

5. Costs

All respondees felt that a major portion of the cost of the operation of any hazardous waste system should be borne by the user. Some felt that government should be required to put the capital facilities in place. Still others were of the opinion that government subsidization of operating costs would be required, at least at the outset.

6. Recycling

There was a consensus that recycling should be an important, integral component of any hazardous waste management system and that this program should be co-ordinated by government. Recycling and reuse of wastes, to the greatest extent possible, should substantially reduce the quantity of hazardous waste. Several representatives of industry added that, as this program should involve the recovery of reusable material, it should be self supporting and not subsidized. In some instances, recycling could provide an economic payback. A chemical company in southern Manitoba noted that they received a small profit from the recovery of a hazardous chemical that is reused by an Alberta based company.

7. Laboratory and Informational Support Services

Reference was made to the need for adequate laboratory services as an integral part of the required hazardous waste facilities. In addition to the basic requirement of laboratory services for waste identification, for treatment and disposal purposes, research and development facilities could advance the understanding of wastes and the possibilities for their subsequent treatment and disposal.

Existing laboratories in Government operations and universities, as well as in the private sector, should be considered and utilized to the extent possible and upgraded where necessary.

The necessity of a comprehensive library on hazardous and special wastes management was also advocated. Such a library would be utilized not only by government personnel and other technicians directly involved in the hazardous waste management program but should be made available for use by researchers and private citizens to advance general knowledge and understanding of the problem and the possible solutions.

8. Transport

The implementation of a comprehensive manifest system was strongly mandated as being an essential element of the inventory and tracking of hazardous and special wastes from either their creation or entry to the Province to their final treatment and disposal or exit from the Province.

Opinion was divided as to whether the owners or operators of hazardous waste transports should be licensed. It was agreed that one or both should be licensed and both should receive adequate training. Vehicles should be marked as carrying hazardous wastes

and controlled, marked routes should be followed avoiding, if possible, built-up and sensitive areas.

It was noted that the proposed recycling program will reduce the volume of hazardous wastes and this will, in turn, result in the reduced transport of hazardous materials and the inherent possibility of environmental damage caused by accidents during transportation.

9. Public Education and Involvement

Education and public involvement were seen to play important roles in the hazardous waste management process. Several discussions explored the question of how the public could become better informed and more actively involved in the process. Several presentations recommended that the present process that is being undertaken to establish a hazardous waste management program should include an aspect related to retraining society to move from a consumer society toward a conserver society.

There was some concern that more people were not present at the hearings; however, it was felt that, at later stages, interest and awareness would be heightened. Based on actual experience elsewhere, the premise is that later hearings related to facility siting criteria or actual facility siting would generate intense public interest and participation.

10. Radioactive Waste

At the two Winnipeg hearings, groups of individuals from eastern Manitoba expressed their deep concern that Manitoba should not become a waste disposal site for high level radioactive wastes. These wastes should not be buried underground in any event but aboveground where improved monitoring could be employed.

The group also reiterated their recommendation at last year's symposium that another symposium to discuss radioactive wastes should be convened in Manitoba under federal/provincial aegis. This should include consideration of both high level and low level wastes.

Presentations were made concerning a present difficulty that medical and university laboratories are experiencing in the disposal of low level radioactive waste. The same problem may also be experienced by some private laboratories.

RECOMMENDATIONS FOR STAGE 2 HAZARDOUS WASTE HEARINGS

1. The Commission believes that it is important to continue with the next stage of planned hearings no later than the fall of 1984.

The Commission was impressed with the sense of urgency conveyed to it by the general public during the hearings. The public knowledge and the general interest initiated by this first round of hearings should build by virtue of the momentum that has been generated. Sufficient follow up resources should now be applied so that this impetus is not lost.

2. An information package on the matters to be addressed at the next set of hearings should be developed and made available for distribution to interested persons in advance of the hearings. Such material should also be distributed to high schools, universities and other organizations to increase knowledge and participation from these sources.

3. Individual letters of invitation to participate in the hearings should be sent to municipal governments, business and industry organizations, union organizations, and environment oriented organizations, who might logically be expected to participate in the hearings.

4. Additional publicity should be utilized to ensure broad public knowledge of the hearings and promote greater participation.

Advertisements should be placed in regional and local newspapers and radio or television coverage should be considered. Newspaper articles on the subject, talk show interviews, and discussions with interested organizations should also be

encouraged to give as wide as possible knowledge of and interest in the subject.

5. Hearings should be held in at least the same number of regions and communities as were visited by the initial set of hearings. An expansion of the number of hearings should be considered, if sufficient interest is indicated as the hearing preparations progress.

APPENDIX A

HAZARDOUS WASTE SYMPOSIUM

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The Symposium, attended by about 400 concerned individuals, was held in Winnipeg from March 16 to 18, 1983. Its purpose was to foster public awareness and to indicate that hazardous wastes were both a complex issue and universal in extent. Speakers attended from other Canadian jurisdictions, from the United States, West Germany, as well as locally. A series of eleven workshops were held which provided the principal focus for public input. The Symposium resulted in a number of general recommendations about hazardous waste management being made to The Honourable Jay Cowan.

1. More detailed study of the existing hazardous waste problem, more public participation in decision-making, and full disclosure of government information.

2. Legislation changes and the need for immediate action in developing interim storage facilities.

3. The formation of a hazardous waste crown coproration, a public advisory board and satellite organizations such as a centre for epidemiology and toxicology and a centre for advanced technology in hazardous waste treatment.

4. A need for the Federal and Provincial Governments to conduct a low level radioactive waste symposium in Manitoba.

APPENDIX B

LEGISLATION - DANGEROUS GOODS HANDLING

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Legislation is an integral part of a waste management system and is included in Phase I. The Dangerous Goods Handling Act has been in preparation for some time and was introduced into the Legislature in August 1983. An intersessional public consultation program was undertaken during the fall of 1983 throughout Manitoba, feedback from which will be incorporated into the legislation. The redrafted Act will then be dealt with at a subsequent session of the legislature. This legislation is intended to provide authority to protect the public and the environment from adverse effects arising from activities involved with the handling of dangerous goods. At the outset of formulation, the Act began as a piece of legislation addressing hazardous wastes, but it became apparent that much more was encompassed including the manufacture, storage, handling and use, and off-highway transport of dangerous goods in addition to hazardous waste generation, handling, treatment and disposal. Included as well are provisions for environmental accidents involving both dangerous goods and hazardous wastes. One of the main tenets of the Act is a requirement for a manifest system which will keep track of a hazardous waste from generation to treatment and/or disposal. The manifest system will also facilitate the inventory of hazardous wastes.

APPENDIX C

CURRENT MANITOBA WASTE INVENTORY

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In 1981, the consulting engineering firm of Reid, Crowther and Partners examined the western provinces and the Northwest Territories in terms of the type and volume of hazardous wastes generated. Also in 1981, the City of Winnipeg and the Province undertook a study in the City of Winnipeg to identify hazardous wastes generated in Winnipeg. The latter survey was updated in 1983. The Reid, Crowther study estimated that 45,000 tonnes of hazardous wastes are generated on an annual basis throughout Manitoba. The joint City/Provincial study estimated that 12,000 tonnes of hazardous wastes are generated annually in Winnipeg.

Currently, the Environmental Management Division is conducting an information exchange with 750 Manitoba businesses. These businesses are informed about the hazardous waste program in Manitoba and, at the same time, information is received from these businesses as to the types and quantities of wastes being generated and methods being used for treatment, disposal or reuse. It is expected that the inventory will be completed by mid-1984.

APPENDIX D

INDIVIDUAL HEARING REPORTS

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DAUPHIN HEARING

A brief was presented by the Town of Dauphin which indicated concern for hazardous wastes and stated that the Province should operate the hazardous and special wastes treatment and disposal system on crown land. The municipal level of government is not able to provide technical expertise to ensure that such wastes are properly identified and disposed. Cited as an example of the practicalities of a municipal government dealing with hazardous wastes was the situation of Dauphin requiring ten years to site a conventional sanitary landfill. This being the actual experience, a hazardous waste disposal site with its many additional inherent concerns might well be impossible for a municipality to site. Such facilities should be capitalized by the Province; however, a user fee concept should be incorporated.

A principal problem in Dauphin, with respect to hazardous waste, is that of pesticide containers. These originate exclusively from the rural area. Dauphin asked that the Commission request the Province to look at the possibility of recycling these containers. This proposal would require a deposit fee of as much as $10 or $15. Similar views concerning pesticide containers was also given by a representative from the community of Laurier. He noted that their small community had buried some 2,000 pesticide cans in their waste disposal grounds this past year.

Mr. Stephens of the Environmental Management Division described the pesticide container program that had been piloted in southern Manitoba. Cans were crushed and subsequently buried and

the residue collected for disposal in an area registered for such purposes. The success of that program was evidenced by the fact that many municipalities were now handling the cans in this manner.

Another matter of concern, raised by the Dauphin Fire Chief, was the storage of chemicals in quantity within the built up area of communities. These are principally agricultural chemicals stored in elevators and warehouses. The principal concern is the ignition of these materials and the resultant fumes, some of which are toxicants, and their proximity to residential areas. Mr. Yee noted that a subsequent regulation will deal with the storage of dangerous goods and this should respond to this concern.

With regard to recycling, the view was given, by a speaker, that the process would not occur without government incentive.

FLIN FLON HEARING

A representative of Hudson Bay Mining and Smelting Co., Limited made a presentation on behalf of the Company. This submission supported a co-ordinated approach to hazardous and special wastes management. However, he issued a caution that the program should be introduced on a step-wise basis to avoid high costs and ensure maximum benefits. Some initial priorities should be the handling of spills, the disposal of identified hazardous wastes (including those that are stored), the cataloguing of wastes and the cataloguing of facilities that exist here and elsewhere. He noted that past bad disposal practises resulted more from ignorance than intent. The costs of a hazardous waste management system should be borne by the waste generators, but the cost should be identified early in the program development.

The principal role of government is to develop and enforce regulations. The overall development and management must involve government, industry and the public. Program direction could perhaps best be handled by an appointed board of qualified experts. There is an argument that waste generators would more readily pay the appropriate cost of treatment and disposal if private industry acted as the operator to look after its own wastes or if a privately owned specialty company was employed for this purpose. Government should only be involved in the case of extremely hazardous material or in the case of radioactive wastes. Recycling should be an economic consideration since subsidization does not make economic sense. A summary statement concluded that the costs of development of a system must be in balance with the benefits.

A local representative of the United Steelworkers of America gave his opinion that economics should not enter the hazardous waste arena since someone has to pay eventually and subsequent costs may not only be higher but environmental damage may also follow. This same speaker felt that emissions emanating from the main stack of Hudson Bay Mining and Smelting Co., Limited contained hazardous wastes, eg. metals, and thus, such emissions should be considered to be a hazardous waste.

A citizen had some concerns about slag that had been used extensively throughout the area as fill. He was told the slag was essentially inert. If there is an environmental impact from such materials, the proposed legislation provides that abatement projects could be undertaken.

Another speaker said that Hudson Bay Mining and Smelting Co., Limited had done little in pollution control over the years and, in his opinion, the Company would feel that hazardous waste treatment costs should be borne by the taxpayers.

In responding to questions, the Company's representative expressed the view that the draft legislation on dangerous goods contained a definition for hazardous waste that would encompass many of the processes and chemical applications undertaken at the metallurgical operation in Flin Flon.

In response to a question about the timetable to put a hazardous waste management program in place, Mr. Yee replied that there is no fixed time since it may be a function of the amount of public input.

A public respondee felt that it would take too long to put a complete program in place. There was assurance given that measures requiring urgent action would be undertaken in the short term and would not have to await the final plan.

The Town of The Pas representatives noted their community has had more than their share of environmental accidents in the last half decade. On this basis, the Town has a vital interest in legislative programs related to hazardous material spill clean ups. There are problems in the area that are unique to the north due to topographic and geologic conditions. Even normal waste disposal grounds have their problems due to these conditions. There is not only an urgent need for a provincial hazardous and special wastes facility, but also a special need for a northern facility. The government should pay for the installation of such a facility. The government should develop and enforce the regulation of all such sites. The communities of the north should not have to provide a facility for the disposal of hazardous materials expecially those associated with a transport accident. Recycling should be undertaken if feasible and realistic. Operation of waste disposal grounds are becoming more complex and costly. It is difficult if not impossible for municipal personnel to screen and segregate wastes to prevent the deposition of hazardous and special wastes. The Pas has also requested a variation to permit burning at its waste disposal grounds to

reduce the volume and extend the life of their waste disposal grounds. A disposal problem in The Pas is broken bottles that are not refundable. They are dangerous and costly to clean up. The community has examined the possibility of legislation that would prevent nonrefunable bottles from entering the Town. There is also concern in The Pas with respect to environmental accidents because of the community's strategic location adjacent to a major highway and railway.

Representatives from the City of Flin Flon made a presentation. They also shared the concern of a need for a facility to manage hazardous wastes. In that such facilities will be very costly, perhaps costs could be reduced through regional facilities being established by the Province or a crown corporation. The private sector should contribute to the cost of constructing and operating such facilities, but should not be involved in their operation. Recycling and reuse of waste products would be worthwhile and a cost saving venture. Government should co-ordinate such efforts as a means to conserve raw materials. The public should be encouraged to recycle. Flin Flon also noted problems similar to The Pas in the operation of its waste disposal ground, particularly with regard to disposal of used oil and an inability to segregate waste due to a lack of technical supervision. Mr. Yee noted that this separation should occur at the generation stage once the waste management system is in operation.

WINNIPEG HEARING #1

A member of the Department of Nuclear Medicine of the Health Sciences Centre spoke of a jurisdictional problem and the responsibility and liability for the disposal of hazardous and special wastes. His section must dispose of a flammable waste material that is moderately radioactive. The City of Winnipeg, at whose site the material is disposed, wants the institution to assume responsibility for any problem that may arise in future.

A Lac du Bonnet resident wanted some assurance that radioactive wastes would be included in the inventory of hazardous wastes. Another speaker from eastern Manitoba wanted to know of any plans to hold a series of hearings in Lac du Bonnet connected with radioactive wastes. He noted that, since Manitoba does not generate high level radioactive wastes, Manitoba should not be a repository for such wastes. In any event, high level radioactive wastes should not be entombed underground but should be stored aboveground in secure facilities for accessibility and monitoring purposes.

A concerned citizen talked about a need of radical social change from a consumer society to a conserver society. He felt that those representing the hazardous waste issue should not only include technical experts but also those from the humanities. Materials that we produce, use, and waste should fit into the ecosystem.

Another speaker representing an industry that produces hazardous wastes suggested that time is needed to solve the problem. Industry needs to be a careful and close partner with government. Small businesses cannot afford the research and development required to identify ways and means of hazardous waste treatment and disposal.

A further speaker from an industry-technical association noted the concern being expressed about the disposal of small quantities of contaminated solvent from a hospital compared to the tank cars of similar material used in the paint and coating industry. He reflected on a few matters that resulted from experience elsewhere. In Quebec, a crown corporation monitors a hazardous waste plant in Mercier operated by the private sector. Government should co-ordinate hazardous waste programs but industry should pay for the disposal of wastes. The generator should be responsible for ensuring that his waste receives adequate treatment and disposal.

Several speakers agreed that hazardous waste treatment and disposal should reside in the private sector, eg. Stablex and Tricil in Quebec. A government corporation can too easily cut back on operations based on budgetary constraints. These operations must be overseen and monitored by a government agency such as a crown corporation. Government should provide incentives but industry should bear the costs.

PORTAGE LA PRAIRIE HEARING

A respondee at Portage la Prairie indicated a definite need for a hazardous waste treatment and disposal facility. He also made note of what he thought was a duplication of effort compared to Europe where the Federal Governments had a larger mandate for this program. In Manitoba, we have an enormous opportunity to avoid the mistakes of other areas such as the Love Canal at Niagara Falls, New York, . Recycling and reuse must be an integral part of any program; however, governments will have to bear some of these costs.

A concern was expressed by a representative of a rural municipality concerning empty pesticide containers.

Some discussion followed about how to educate and interest the public in the matter of a hazardous waste management program. This reached no resolution aside from agreement that it was both a problem and a challenge.

In its presentation, the City of Portage la Prairie, while agreeing with a need for hazardous waste treatment and disposal facilities, stated that each provincial government should have its own facility and it should be operated by government. Regulations should be developed jointly with the Federal Government. Costs should be shared by government and the waste generators. As much public information as possible should be made

available. The speaker felt that a solicitation by mail would reach more people.

Another view was expressed that sufficient time should be taken to do it right. An analogy was drawn with the McGregor derailment of several years back and the necessity of government being very informative and honest in such situations.

BRANDON HEARING

A formal presentation was made by Simplot Chemical Company Ltd. Their representative suggested a need for a hazardous and special wastes treatment and disposal facility. He had an open mind as to whether government or the private sector should operate this facility. He noted that, in Ontario and Quebec, the private sector was involved in this area. He drew attention to the fact that Simplot utilized a material in their process that becomes spent and precautions must be taken with respect to disposal of this material since it could become an environmental problem. The material is sold to an Alberta based company where it is reclaimed. There is a small payback to Simplot. Government should enforce legislation. Costs of the system should be borne by taxation and also user fees. Recycling and reuse is obviously a better method of handling waste materials. There is a necessity to define what we mean by hazardous wastes since there are some materials such as asbestos that could be disposed of in a secure landfill whereas others require special treatment. In addition to treatment and disposal sites, there is a need for local collection and pick up points on a regional basis to accommodate the smaller local businesses that generate hazardous wastes. Any regulations should be as simple and straightforward as possible so that compliance is a relatively easy matter. With regard to environmental accidents, business routes that are clearly labelled for transport of dangerous goods should be developed and posted in order to avoid exposing highly populated and vulnerable areas.

One speaker noted that the Commission should be looking farther than the hazardous waste issue. If society were to become more conserver and less consumer oriented, the problems would be reduced. The same speaker noted that, at the outset, the taxpayer might have to bear the heaviest economic burden for such facilities.

MORDEN HEARING

Monarch Industries Ltd. of Winkler presented a brief in which they asked a specific question, namely, as to how their Company might dispose of electrical capacitors with organic coolants. The older capacitors contain PCB's which are a licensable hazardous waste. It had cost $10,000 to dispose of six of these units which was more than three times the original purchase price. Even the new capacitors contain organics that must be disposed of in a hazardous waste site. A waste treatment and disposal facility would be too costly for the private sector to build. An incinerator to dispose of such organics in an environmentally safe manner would cost many millions of dollars.

Another manufacturer from Winkler felt that small industries in rural areas would have to be compensated to deliver wastes to facilities that would likely be located close to Winnipeg or Brandon. In his view, the costs of such programs should be spread "across the board".

By way of reducing costs, one respondent wanted to know why the prairie provinces could not look at a joint solution to the problem. It was noted that this had been examined a few years ago and found to be more cost efficient, but nobody wanted someone else's wastes.

Another speaker could not understand why jurisdictions could not get together since this had been the basis for the

European system - one of co-operation. This same speaker felt that there should also be a time frame to the program. If there is a problem now, we should be getting on with the solution.

A representative from the Town of Winkler expressed the view that there is a problem and that the problem should be handled by government due to its size. Costs should be shared by the generator, municipalities, and the provincial government. There was a specific concern in Winkler with respect to the deposition of hazardous wastes to the soil or subsoil with respect to the community groundwater aquifer. A concern was expressed again with respect to adequate advice to the public of meetings and hearings. Newspaper advertisements are not sufficient.

WINNIPEG HEARING #2

The first speaker represented the Freshwater Institute of the Department of Fisheries and Oceans. He noted that the federal government has the ultimate responsibility for the fishery in Canada and, therefore, has a special interest in hazardous waste management. The department has a further interest since programs in the Institute generate small quantities of hazardous wastes for which special waste disposal precautions are taken. Currently, the Institute is involved with a number of agencies in terms of their hazardous and special wastes (AECL - Chalk River and Pinawa, the City of Winnipeg, and the Province) and they would like to see a single focus for disposal of hazardous wastes. He noted that Fisheries and Oceans would welcome the establishment of a comprehensive waste management program in Manitoba. He drew attention to a group of seven wastes that have implications in the protection of the Fisheries resource; oil, wood preservatives, heat transfer fluids, eg. PCB's, solvents, heavy metals, pesticides, and domestic sewage. All but the latter would probably be classified as a hazardous waste.

A professor from the Food Science Department at the University of Manitoba pointed out that there is not a chemical waste question of any serious consequence that has not been technically solved. He believes that there is really no such thing as a waste; we are just not intelligent enough to realize where wastes fit into the harmony of nature. Whatever the process, it must not be a partial view that is applied. It must be an integrated, holistic approach which would include the solution to waste disposal. If we borrow from nature, we must use the item wisely and competently and then return it to nature properly. If a material does not occur naturally, such as a chlorinated hydrocarbon, it must be destroyed. We have the technology to get rid of microtoxic chemicals in a manner acceptable to the environment by incineration and subsequent scrubbing of the gases. Those that espouse zero discharge are deluded. There is no such thing. There is always a background level of contaminants. There is a risk in everything in life. In Manitoba, we are small producers of wastes and we must scale down the systems that are currently available. Some money needs to be spent in Manitoba on pilot plant facilities to show that, in our locale and for our mixture of hazardous wastes, the technology is available and works. One of our biggest problems in Manitoba is the dispersal of these materials. All waste management systems work better and more economically if the wastes are reduced to the least volume and greatest strength. Efforts must be made to concentrate these wastes. A mobile treatment plant may have merit. Such a facility could be located in an area until the wastes are cleaned up in that sector. This might also apply to the clean up of organic coolants such as PCB's in transformers. An example of an existing facility with potential for waste treatment is the Shell Oil Refinery, currently being decommissioned in Winnipeg. Government should stay out of the business of engineering waste management systems. Instead, government should call on competent, private sector chemical engineering groups to do the work under contract.

The next speaker was a representative of Solv-X Inventions Ltd. His firm has a process for burning waste oil for heating purposes. He noted that this method was much cleaner and more cost efficient than spraying oil on roads for dust control or disposal at landfills. He has sold 125 units in Manitoba and believes he should receive a tax incentive, similar to those available for a wood stove or a household reinsulation program. Not only has he not been able to receive a tax break but, due to the potential for lead contamination in the exhaust gas, higher than normal stacks have been required to vent his unit. He envisions his unit as disposing of a hazardous waste in an environmentally effective manner with positive benefits in the form of heat. At the moment, there is little oil that is picked up and recycled or burned in Manitoba.

A presentation from the Manitoba Environmental Council noted that a committee of this Council had been looking at the problem of hazardous wastes for the past few months. A waste materials exchange bulletin should be published as soon as possible in Manitoba to encourage the exchange of materials for detoxicification. There is a need for an audit of hazardous waste material in Manitoba accompanied by a continuous updating process. There should be government cost shared agreements that would encourage recycling and recovery of wastes. The Manitoba Research Council could be involved in determining solutions to recycling and recovery problems. Insofar as it is possible, in situ disposal of hazardous wastes should be encouraged to reduce transportation of wastes with concomitant problems. Notwithstanding what is perceived to be a small volume of hazardous wastes in Manitoba, it is the hope and expectation that Manitoba will have its own facility. The operating agency should be at arm's length from the monitoring agency. The idea of an independent advisory board capable of auditing both the finances and chemical monitoring process programs is supported. In both Alberta and Ontario, crown land is being contemplated for the waste disposal facility and this would appear to be a good idea for Manitoba.

Public participation would be useful on this board especially from the municipality in which the facility is located. The cost of operation should be borne by users on the basis of a payment for disposal. In terms of interim storage for hazardous wastes, there should be an environmental impact statement developed otherwise there will be an attempt to scale up the Gimli facility. Public education processes should be pursued to enable the public to become involved in separating hazardous wastes from normal wastes. There is certainly a need for public participation at hearings as more information becomes available throughout the completion of Phases I, II, and III.

The next speaker represented the Winnipeg Paint Association. He noted that Manitoba is the fourth largest producer of paint and coating in Canada in the process of which some 2000 different raw materials are used in the formulation of paints. Some of the products are by definition hazardous. This association has been very involved on a Canada wide basis in hazardous waste management programs. The dangerous characteristics of a hazardous material include toxicity, flammability, reactivity, corrosiveness, radioactivity, and infectiousness. The first four of these characteristics would apply to the paint industry. A second group of considerations must be taken into account including bioavailability, persistence, and the presence of an initiating or catalytic agent. A detailed discussion followed concerning the complexity of characterizing a waste as being hazardous. As an example, if asbestos was deposited in water or on an open dump, the waste would be properly classified as a hazard; however, if the asbestos were encapsulated in a resinous medium, it would cease to be a hazard. The bottom line of the discussion was that caution should be urged in developing criteria for identifying hazardous wastes. The association believes that there is a need for a hazardous waste disposal facility. The facility should be operated by the private sector and monitored by government. The waste generator should be responsible for costs. The government should co-ordinate industry

wide efforts at recycling, reduction, and reuse. Also, the public should be urged to recycle.

The next speaker represented the Canadian Manufacturers Association. This group strongly advocated the establishment of a hazardous waste management system in Manitoba with the proviso that it should be practical, reasonably priced, and consistent with procedures across Canada. Some of the tenets of the program should include efforts towards reducing hazardous wastes, a system to monitor and regulate major waste stream generators, good communication between generator and the government including technical information assistance to generators especially those that are small industries, and priorization of the hazardous waste streams.

A brief was next presented by a representative of the Canadian Union of Public Employees. He noted that labour and the unions had a strong interest in hazardous wastes because of the health implication of handling such wastes. A comprehensive program of public control of all aspects of the production, transfer and ultimate disposal of hazardous wastes is needed in Manitoba. These facilities should be owned and controlled publicly. Part of this program should include monitoring of the wastes at all stages, the licensing of carriers, a manifest system, the control of both existing and new waste sites, and a research and development program. A number of advantages to public control were cited including no profit, which would be a deterrent in a user pay system, greater responsiveness to citizen needs it serves, the feasibility of continuity and long-range planning, greater openness, co-operation with other allied government directorates, and the maintenance of proper records.

The next speaker represented a small community close to Winnipeg. He described deplorable conditions at a municipal waste disposal ground. All kinds of wastes are dumped with the runoff from the area not being diverted or contained but allowed to discharge to the river.

A citizen representative spoke of the need of a library and also a need to have available environmental newsletters as well as the scientific literature. If there is an advisory board, they should be handed the appropriate terms of reference so that they can do a worthwhile job. Hazardous waste considerations should be built right into the conceptual stage of an industrial project. If a centre for epidemiology and toxicology is established, with appropriate funding, this could become an extension of the Manitoba Federation of Labour Occupational Health Centre.

The next speaker was a professor in the Faculty of Engineering at the University of Manitoba. Because Manitoba does not have a large volume of hazardous waste, there is an opportunity to establish a system to a high level of effectiveness. There must be some government supervision of such a system; however, the supervising agency should not be the Environment Department. If the system is operated by the private sector, it should be under contract to government. Because of profit motives and a subsequent need to cut corners, it might be better to have the operation vested in a crown corporation. It is hoped that recovery of wastes for reuse would become economically viable. Government should co-ordinate efforts at recycling. Private citizens should be encouraged to recycle. The cost of operation should be borne by the generator, but this may take time. The program should give adequate recognition to the small generator of hazardous wastes. An ultimate disposal site should take account of transport modes, routing, etc., since many of the accidents occur during this phase. The records also show that many of the accidents are caused by impaired drivers which gives credence to licensing drivers rather than owners. Vehicles should be properly placarded so that the load can be identified easily in the event of an accident.

A representative of the Manitoba Federation of Labour made a presentation. He made note of the European system which

seems to be working well. In the United States, the cost of clean up of past errors in this field has been estimated at between $40 and $300 billion. The United States and Canada are at least fifteen years behind Europe in hazardous waste management. The union feels that the facility should be publicly owned utilizing crown land. Although the facility should be a crown corporation, private expertise should be used. A user fee concept should be used and recycling, reduction and reclamation should be encouraged. The facility should include research and development to update current development. Laboratory facilities should be located on-site with a good technical reference library. The union would like to abolish landfills for the disposal of any waste. Secure landfills may have a place as a transient storage system; however, wastes stored for this purpose should first be placed in sealed containers. Support was given to road and rail transport of hazardous wastes but, under highly regulated conditions. The manifest system is supported as well as uniformity of regulations throughout Canada. This latter measure would prevent the creation of pollution havens with unfair economic advantage. Although alternate technologies may result in a reduction of the workforce, this will be offset by workers required to maintain the new technology. The expectation is that the hazardous waste management system should be in place within five years.

On this occasion, as at the earlier Winnipeg hearing, an eastern Manitoba group wanted assurance that the Commission would address the matter of radioactive wastes and identify in the report that radioactive wastes from outside this jurisdiction should not be stored in Manitoba - especially underground.

The last speaker was from the Bio-Mass Energy Institute. He noted that this group had been active in waste utilization in Manitoba since 1971. Even regular garbage in dumps and landfills is a hazardous waste since, in a number of years, the biomass will break down into methane and will become a problem. He expressed a

hope that there would be a mechanism to separate hazardous wastes from garbage, especially in Winnipeg, (although Mr. Yee had noted earlier that this would be principally the generators responsibility). In their view, the facility should be privately run since the government would not be likely to manage the operation efficiently. In any event, a regulatory board should oversee the operation. Generators should have to pay a user fee. There should be a stipulation that small producers of waste (a cup of condensate from an energy efficient domestic furnace, for example) would be excluded from the process. Recycling should be encouraged. Meaningful deposits on pesticide containers would be an incentive to return them to the supplier or a depot. An important element of a hazardous waste management program is education. Part of the education is a need to train waste handlers.

THOMPSON HEARING

A representative of Inco Limited made a presentation on behalf of the Company at this hearing. Inco supports a planned, co-ordinated approach to disposal of hazardous and special wastes and is willing to assist the province in developing an appropriate program for Manitoba. In the first instance, however, the scope and size of such a system must be defined. It seems appropriate that Clean Environment Commission orders continue to address the larger volumes of emissions such as sulphur dioxide from stacks and effluent from tailings residue ponds. Manitoba should be in partnership with the other provinces and there should be compatability with all jurisdictions. In this respect, common and shared facilities, for some kinds of wastes may be necessary to improve the economics. There should be a priorization of wastes, for example, PCB's and DDT. There must be a provision of liability for damages but there must be assurance that the degree of liability is reasonable. Government departments should be regulators of systems but the operation should reside with the

private sector or a crown corporation. The costs must be borne by the waste generators; however, some government subsidy may be necessary. Recycling should be encouraged, but left to the user, with government in a co-ordinating role.

A representative from the Norman Regional Development Corporation made note of the fact that we may not generate sufficient hazardous waste to warrant a complete system of our own. He subscribed to the regional concept recommended by the Reid, Crowther report in 1980. This, of course, raises the question of another jurisdiction's waste being acceptable for treatment and disposal in someone else's backyard.

Union representatives indicated that they supported the development of a comprehensive hazardous and special wastes management system.

APPENDIX E

BRIEFS SUBMITTED FOLLOWING HEARINGS

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The City of Brandon, in its brief, expressed concern that, based upon the draft "Dangerous Goods Handling Act", a municipality is required to make provisions for the disposal of hazardous wastes generated within its jurisdiction in which case a facility with properly trained staff far beyond the capabilities of municipal jurisdictions would have to be provided. Their recommendation is to reword the Act and lessen the impact on individual municipalities. This report has been passed to the departmental group which is reviewing the legislation.

The City of Winnipeg, in a letter, advised that none of the standing committees of council had dealt specifically with the questions posed by the public hearings on hazardous wastes and they were, therefore, not able to make any comment.

The Mining Association of Manitoba noted that the development of a practical, co-ordinated program to properly manage hazardous and special wastes would enhance the future environment of Manitoba noting, however, that the impacts of these wastes are small compared to other locations. The matter of the need of a treatment facility is questionable until the inventory is completed. Even then, internal measures could result in the reduction of this waste stream and consequently the viability of a facility will diminish. Because of the small volume of some of the waste streams, reciprocal agreements with other facilities should be examined. If a facility is justified, it should be operated by an agency independent of government to ensure that the operation is cost effective but subject to governmental regulation. The philosophy should be that the generator bears the cost for disposal. Government should be confined to the role of co-ordination in terms of recycling; however, the decision to implement recycling should be at the discretion of the generator.

A Winnipeg resident, recently emigrated from Europe, with a background in environmental impact studies of nuclear waste management systems, presented a brief that emphasized the role of recycling for constructing, operating and funding a waste management system.

APPENDIX F

LIST OF BRIEFS AND SUBMISSIONS

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1. Report on Manitoba Symposium on Hazardous and Special Wastes, March 16, 17, and 18, 1983, by the Symposium Steering Committee.

2. Clean Environment Commission and Hazardous & Special Waste Management Programs - Questionnaire.

3. Representation by R. Storozinski, Engineer, on behalf of the Town of Dauphin.

4. Brief presented by Mr. W. W. Fraser on behalf of Hudson Bay Mining and Smelting Co., Limited.

5. Brief presented by Councillor Howard Pascoe on behalf of the City of Flin Flon.

6. Brief presented by Mayor Bruce Unfried on behalf of the Town of The Pas.

7. Presentation by Dr. G. Burton Ayles on behalf of the Department of Fisheries and Oceans, Canada.

8. Brief presented by Professor R. A. Gallop, Food Science Department, University of Manitoba.

9. Submission by Derek Muir, on behalf of the Environmental Chemical, Water and Waste Committee, Manitoba Environmental Council.

10. Brief presented by Mr. Bert McWade, Winnipeg Paint Association, affiliated with the Canadian Paint and Coatings Association.

11. Brief presented by Mr. Roger Ptashnik on behalf of the Canadian Manufacturers' Association, Manitoba Branch, Environmental Committee.

12. Brief presented by Mr. J. Shairo on behalf of the Manitoba Division, Occupational Health and Safety Committee, Canadian Union of Public Employees.

13. Presentation by Mr. Edward Lee, Solv-X Inventions Ltd.

14. Brief presented by Mr. A. Cerilli on behalf of the Manitoba Federation of Labour.

15. Brief presented by Professor A. M. Lansdown, Civil Engineering, University of Manitoba.

16. Letter dated January 25, 1984, from Mr. D. J. Ringach.

17. Brief accompanying letter by Dr. Hans-Juergen Dorst, Winnipeg.

18. Letter dated January 31, 1984, from Mr. Donald J. Ringach.

19. Letter dated January 27, 1984, from Mr. Robert J. Redhead, Tricil Limited.

20. Brief dated January 24, 1984, from Mr. Robert H. Bloy, Manager, on behalf of The Mining Association of Manitoba Inc.

21. Brief dated February 8, 1984, from Mr. Rod McCormick, Industrial Technology Advisor, on behalf of The Biomass Energy Institute.

22. Submission by Mr. Charles S. M. Mortimer, General Manager, on behalf of the Norman Regional Development Corporation.

23. Brief dated February 21, 1984, submitted by His Worship K. J. Burgess, Mayor, on behalf of the City of Brandon.

24. Letter dated February 20, 1984, from Mr. R. J. McRae, Commissioner of Works and Operations, on behalf of the City of Winnipeg.